



### ***3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL EFFECTS***

This chapter provides information concerning the existing environment in the Project Area and the environmental effects of the alternatives. The existing environment sections describe the baseline condition against which the environmental effects are evaluated. The following areas are discussed:

- Thresholds of Significance
- Actions Utilized in Analyzing Cumulative Effects
- Air Quality
- Watersheds, Hydrology, and Floodplains
- Geology and Mineral Resources
- Soils and Geomorphology
- Wetlands and Riparian Lands
- Fish and Aquatic Habitat
- Vegetation and Timber Resources
- Wildlife
- Land Use
- Transportation and Traffic
- Economic and Social Environment
- Herbicides
- Cultural Resources
- Visual Resources
- Recreation
- Roadless Areas, Wilderness Areas, and Wild and Scenic Rivers
- Tribal Trust and Tribal Issues
- Additional Lands and Changed Circumstances
- Growth-inducing Impacts
- Unavoidable Adverse Impacts and Other Environmental Considerations

The “Actions Utilized in Analyzing Cumulative Effects” discussion identifies the past, present, and foreseeable future actions that will be considered in the cumulative effects discussion.

The environmental effects related to each of the above resource areas are discussed immediately following the presentation of each resource’s affected environment. The environmental effects sections provide the scientific and analytical basis for the comparison of alternatives presented in Chapter 2. They present the expected effects on the physical, biological, social, and economic environments associated with the implementation of the alternatives. All significant or potentially significant environmental consequences to each resource area are disclosed, including the direct, indirect, and cumulative effects. Effects are quantified where possible, although qualitative discussions are often necessary.

Direct environmental effects are those occurring at the same time and place as the initial cause or action. Indirect effects are those that occur later in time or are spatially removed from the activity but would be considered significant in the foreseeable future. Cumulative effects result from the incremental effects of actions when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or non-federal) or person undertakes such other actions.

Following the discussion of individual resource areas, Chapter 3 then presents growth-inducing impacts. Chapter 3 concludes with a discussion of unavoidable adverse impacts and other environmental considerations that must be addressed under NEPA and CEQA, but that do not fall under the categories listed above. These topics include the irreversible and irretrievable commitment of resources, possible conflicts between the proposed action and the plans of other jurisdictions, and other environmental considerations.

#### Available Information

There is less than complete knowledge about many of the relationships and conditions of the resources and issue areas including wildlife, fish, and employment. The ecology, inventory, and management of a large forest area, whether local, subregional, or regional, is a complex and developing science. The biology of wildlife species prompts questions about population dynamics and habitat relationships. The interaction of resource supply, the economy, and communities is the subject of an inexact science. In developing the affected environment and environmental effects sections of this EIS/EIR, the analysis team examined the data and relationships used to estimate the effects of the alternatives. The data and level of analysis used were commensurate with the importance of the possible effects (40 CFR 1502.15). Much of the analysis was based on the Geographic Information System (GIS) databases of PALCO and VESTRA Resources as they existed in late 1997 and early 1998. Evaluation of and additional analyses of these databases were performed in developing this EIS/EIR.

When encountering a gap in information, the analysis team concluded that the missing information frequently would have added precision to estimates or better specified a relationship; however, the basic data and central relationships are

sufficiently well established in the respective sciences that the new information would be unlikely to reverse or nullify understood relationships. Thus, new information would be welcomed and would add precision, but it is not essential to provide adequate information for the decision-makers to make a reasoned choice among the alternatives.

Because there has been a long process in developing the Headwaters Agreement, PALCO's HCP/SYP, and this EIS/EIR, there have been a variety of acreages provided in the various public announcements, agreements, and documents related to various ownerships, reserves, forest stands, MMCAs, and other items. These estimated numbers reflect the condition of the GIS databases, and the understanding of boundaries and the analyses performed at those times. Those numbers may not correspond to each other because they were done at different times. Additionally, these numbers are unlikely to be exactly the same as actual on-the-ground surveyed acreages. The acreages provided in PALCO's HCP/SYP and this EIS/EIR are also estimates based on those GIS databases and the analyses performed upon those databases and the analyses performed upon databases derived from them. These acreages are generally similar to each other but the actual acreages will be based on on-the-ground boundaries and/or surveyed boundaries.